

CLAIMS

1. Musical apparatus comprising:

an audio score synthesis mechanism;

an outplay mechanism configured to outplay an audio score;

an audio score input mechanism configured to input a received audio score from an external source wirelessly coupled with said apparatus; and

an audio score mixing mechanism coupled with said synthesis mechanism, with said audio score input mechanism and with said outplay mechanism, said mixing mechanism configured to mix a synthesized audio score with a received-and-inputted audio score to produce an outplayable audio score having components of both the synthesized and the received-and-inputted audio score for outplay of the produced outplayable audio score by said outplay mechanism.

2. The apparatus of claim 1 which further comprises:

a controller configured to characterize said apparatus alternatively as a master capable of dictating a mode of operation for a network of plural instances of said apparatus or as a slave capable of having such a mode of operation dictated.

3. The apparatus of claim 1 which further comprises:

a wireless interconnect mechanism configured wirelessly to transmit and receive audio scores in the form of digital data to and from such external source.

4. The apparatus of claim 3 which further comprises:

a recording mechanism configured at least temporarily to store one or more audio scores.

5. The apparatus of claim 4 which further comprises:

an upload mechanism to upload such one or more audio scores to a processor external to said apparatus.

6. The apparatus of claim 1, wherein said external audio source is another instance of said musical apparatus.

7. The apparatus of claim 1 which further comprises:
a housing of approximately hand-held size, said housing containing said synthesis
mechanism, said outplay mechanism, said input mechanism and said mixing mechanism;
5 a memory within said housing for storing coded audio event data representing one
or more such audio scores; and
digital-audio electronics within said housing for retrieving coded audio event data
from said memory, for converting said coded audio event data into an audio signal and for
playing out said audio signal audibly to a user of said device.

10 8. The apparatus of claim 7 in which the coded audio event data is stored in
accordance with a musical instrument digital interface (MIDI) standard.

9. The apparatus of claim 8 which further comprises:
15 one or more user controls on said housing, the user control enabling the user to
selectively out-play said audio signal.

10. The device of claim 8 which further comprises:
a display on said housing, the display enabling a user to visually monitor the
20 selective out-play of said audio signal.

11. A system of music devices operatively coupled together, the system comprising:

plural apparatus in physical proximity with each other and capable of at least one-way communication therebetween of an audio score,

5 at least one such apparatus comprising:

an audio score synthesis mechanism including an outplay mechanism for outplaying the synthesized audio score;

10 an audio score mixing mechanism coupled with said synthesis mechanism for mixing plural audio scores to produce another audio score having components of each of the plural audio scores; and

an audio score input mechanism coupled with said mixing mechanism to provide one or more input audio scores thereto for mixing with the synthesized and outplayed audio score,

15 said synthesis mechanism, said mixing mechanism and said input mechanism being operable in real time to create an outplayable audio score having components of plural audio scores produced by said plural proximate apparatus; and

at least another such apparatus operatively coupled with said at least one such apparatus, said at least another such comprising:

20 an audio score output mechanism; and

a transmit mechanism for wirelessly transmitting an audio score to said at least one such apparatus for mixing thereby.

12. The system of claim 11, wherein the audio score for transmitting by said
25 transmit mechanism is in the form of digital data.

13. The system of claim 12, wherein the digital data is formatted in accordance with a musical instrument digital interface (MIDI) standard.

14. The system of claim 11, wherein said audio score synthesis mechanism of said at least one such apparatus further includes an outplay mechanism for outplaying the synthesized audio score and wherein said at least another apparatus further comprises:

5 a second audio score synthesis mechanism operatively coupled with said output mechanism for synthesizing an audio score for transmitting by said transmit mechanism;

a second audio score mixing mechanism coupled with said second synthesis mechanism for mixing plural audio scores to produce another audio score having components of each of the plural audio scores; and

10 a second audio score input mechanism coupled with said second mixing mechanism to provide one or more input audio scores thereto for mixing with the synthesized and outplayed audio score,

said second synthesis mechanism, said second mixing mechanism and said second input mechanism being operable in real time to create a outplayable audio score having components of plural audio scores produced by said plural proximate apparatus.

15 15. The network of claim 14 wherein at least one of said plural apparatus further comprises a controller configurable as a master controller and at least another of said plural apparatus further comprises a controller configurable as a slave controller wherein said master controller is capable of dictating a mode of operation of said network to said slave controller.

16. The network of claim 11, wherein at least one of said plural apparatus is characterized as a lightweight portable hand-held device.

17. A method of producing a musical session among two or more music devices, the method comprising:

providing two or more physically proximate but separate music devices,

5 a first one of such devices being configured to synthesize a first audio score and to mix the same with a second audio score from an external source to produce an outplayable audio score having components of both the first and second audio scores and

10 a second one of such devices being configured to receive from the first one of such music devices the outplayable audio score and to outplay such outplayable-and-received audio score,

and

operatively coupling said two or more music devices together via a wireless interconnect mechanism that enables at least one way communication therebetween of an
15 audio score for outplaying by the receiving music device.

18. The method of claim 17 in which the second one of such devices is configured as the external source, wherein such second one of such devices is further configured to synthesize the second audio score and to transmit such second audio score
20 via such wireless interconnect mechanism to such first one of such devices for mixing thereby with such first audio score.

19. The method of claim 18, wherein the first one of such devices is further configured to outplay the outplayable audio score.

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20. The method of claim 19 which further comprises:

recording the first and second audio scores within corresponding memories of such first and second ones of such devices in accordance with a musical instrument digital interface (MIDI) standard.

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21. A method of producing a musical session among two or more music devices, the method comprising:
synthesizing a first audio score;
wirelessly transmitting a second audio score between two or more music devices
5 that are physically proximate but separate from one another;
mixing the first audio score with a second audio score to produce an outplayable audio score having components of both the first and second audio scores; and
outplaying the outplayable audio score.

10 22. The method of claim 21 which, before said transmitting, further comprises:
synthesizing the second audio score.

15 23. The method of claim 22, wherein said transmitting of the second audio score is in accordance with a musical instrument digital interface (MIDI) standard and wherein said first synthesizing, said transmitting, said mixing and said outplaying are performed approximately simultaneously.

20 24. The method of claim 23, wherein said outplaying is performed approximately simultaneously at each of the two or more music devices.

25 25. An article of manufacture for use with a music device, the article comprising a computer-readable medium containing a program, the program comprising:
synthesis firmware for synthesizing a first audio score;
transmission firmware for wirelessly transmitting a second audio score between
two or more music devices that are physically proximate but separate from one another;
mix firmware for mixing the first audio score with a second audio score to
produce an outplayable audio score having components of both the first and second audio
scores; and
30 outplay firmware for audibly outplaying the outplayable audio score.

26. A computer-readable medium containing a program according to claim 25,
wherein the program further comprises:

synthesis firmware operative before the operation of said transmission firmware
for synthesizing the second audio score.

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27. A musical system comprising:

a wireless network; and

plural portable musical apparatus in physically separated proximity with each
other and capable of two-way communication therebetween of an audio score over said

10 wireless network, each musical apparatus including:

an audio score synthesis mechanism;

an audio outplay mechanism coupled with said network;

an audio input mechanism coupled with said network; and

an audio score mixing mechanism coupled with said synthesis mechanism,

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said input mechanism and said outplay mechanism, said mixing mechanism
configured to mix a first audio score from said synthesis mechanism with a second
audio score from said input mechanism to produce in real time an outplayable
audio score having components of each of the first and second audio scores.

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28. The musical system of claim 27, wherein the outplayable audio score is in
the form of digital data.

29. The musical system of claim 28, wherein the digital data is formatted in
accordance with a musical instrument digital interface (MIDI) standard.

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30. The musical system of claim 29, wherein said wireless network takes the
form of a WiFi or Bluetooth network.